

REMARKS/ARGUMENTS

This paper is in response to the Official Action mailed April 27, 2004.

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Tisch* (US 5,433,905) in view of *Pozzo et al* (US 4,009,073) and WO 98/50208. The Examiner has alleged that *Tisch* discloses a process for continuously making a lignocellulosic particle board whereby the process comprises providing a mat comprising binder coated lignocellulose particles, feeding the mat into a steam injection press, pressing and applying steam to the mat to cure the binder and form the particle board, while the steam is actively removed by applying a section pressure.

The Examiner has stated that *Tisch* is unclear whether the lignocellulosic particles are subjected to drying before the mat is fed into the steam injection press. The Examiner nevertheless concludes that this would be obvious because it is well known in the art to form a mat with a desired moisture content. However, the Examiner does not cite to any references to show the correlation between drying the lignocellulosic particles and the moisture content of the board. In contrast, *Pozzo et al* at Col. 1, lines 26-55, provides that whether the particles are dried before the mat is fed into the steam injection press defines the type of process carried out, i.e. a wet process or a dry process, and not the moisture content of the board.

Furthermore, the Examiner states that *Tisch* is silent with regards to whether the resultant board is subjected to a post-conditioning/treatment operation. The Examiner further admits that *Tisch* does not teach conditioning the board by drawing a predetermined volume of air with a predetermined moisture content and a predetermined temperature through the board by means of suction. The Examiner contends, however, that

this would be obvious because the secondary reference, *Pozzo*, teaches subjecting particle board to in-line humidification by exposure to humid air at a temperature around 200°F to prevent the board from buckling or warping, and that use of a post-gas treatment is also taught by WO 98/50208 where a "gaseous treatment agent is contacted with at least one wall of the board and is caused to pass through the thickness of the board" using a vacuum pressure. Thus, the Examiner contends that WO 98/50208 discloses subjecting at least one wall of the board with gas treatment agents, such as steam, which is caused to pass through the board by forming vacuum pressure on the opposing wall and to recover noxious emissions therefrom. The finishing operation is said to be obvious in that it is common practice to subject a conditioned board to sanding. Applicants respectfully traverse this rejection because the collective teachings of the prior art would not have motivated one skilled in the art to produce the claimed invention with a reasonable expectation of success.

As previously mentioned, *Tisch* discloses a process for continuously making a lignocellulosic particleboard. However, *Tisch* only teaches the curing aspects of continuously making lignocellulosic particleboards. As stated by the Examiner, *Tisch* is silent with regards to after-conditioning operations; nowhere does *Tisch* refer to any possible after-conditioning operations or grinding operations. Furthermore, neither *Pozzo et al* nor WO 98/50208 provide the necessary suggestion to combine their operations with that of a continuous steam injection method to produce lignocellulosic particleboard. Therefore, neither *Tisch* nor any other cited reference provides the necessary suggestion or motivation to combine the teachings of the prior art. Absent this suggestion or motivation, the Examiner's *prima facie* case fails.

The object of the present invention is to obtain a stabilized fiberboard such that dimensional stability is

obtained in the continuous dry production process, thereby making it possible to grind the fiberboard to a final thickness as part of the continuous dry process. Thus, it is made possible to produce a final product with a final thickness directly in the same production line that starts with the forming of a mat, and continues without any intermediate storing during the process. Consequently, it is a continuous process from mat formation to obtaining a dimensionally stable product with a final thickness. The secondary references cited by the examiner, however, do not teach a continuous process of forming lignocellulosic fiberboard from mat formation to a final product. Moreover, Pozzo teaches a hardboard made via a wet process and not a fiberboard made via a dry process.

Thus, Pozzo et al teaches away from the claimed invention. Pozzo teaches an in-line humidification process where hardboard is humidified/moisturized following a bake treatment in order to prevent warping and buckling of the hardboard due to the dryness of the hardboard after the formation steps. Pozzo does not teach drawing air through the hardboard, but instead teaches the hardboard absorbing moisture from the humidification process. (Col. 9, lines 40 - 41). This is in contrast with the claimed invention where air is drawn through the board with the assistance of vacuum. Furthermore, neither the initial baking process nor this humidification process can be considered to be part of a continuous process because the hardboard is baked in an oven for from 2.5 to 4 hours (Col.9, lines 27-29) and then treated in a humidified chamber for 2.5 to 8 hours. (Col. 9, lines 38 - 40). In addition, Pozzo relates to a wet-process whereas the claimed invention relates to a dry process. (Col. 1, lines 56 - 59). Indeed, Pozzo teaches away from any use of a dry process, but it specifically mentions and then discards. The wet-process of Pozzo defines the product that is produced, a hardboard in which

humidified air cannot be drawn through but only absorbed into, whereas the dry-process of the claimed invention defines a lignocellulosic board product whereby air can be drawn through. Thus, the process chosen is essential to defining the final product manufactured.

Even if a person skilled in the art had been motivated to combine the teachings of the prior art, the claimed invention would not have been produced. First, *Tisch* does not teach after-conditioning processes, such as drawing air through a board, nor does it teach grinding of the board to a final thickness. Second, *Pozzo* merely teaches sanding of a hardboard as part of a panel board finishing operation. (Co. 9, lines 49-52). The Examiner cites Webster's Encyclopedic Unabridged Dictionary to show that grinding means to wear, smooth, or sharpen by abrasion or friction. However, the Examiner equates grinding with sanding, but never explains how these two operations are similar, nor does he cite to a definition of sanding to prove his point. According to Webster's Third New International Dictionary, "sanding" is defined as "a smoothing or polishing step especially with sandpaper." That same dictionary defines "grinding" as "to reduce to powder by friction" or "to rub or press harshly." These definitions show that "sanding" and "grinding" are the same operations, with "sanding" being a finer operation intended to polish while grinding being a coarser operation intended to wear away layers by "reducing...by friction." *Pozzo's* use of sanding is commensurate with the definition of sanding because *Pozzo* utilizes sanding only to "remove pimples [and] high spots [and] to improve[] [the] bond of subsequent coatings." (Col. 9, lines 51-52). In contrast, grinding is utilized in the claimed invention to reduce the after-conditioned board to a final thickness, and not merely to remove minor surface irregularities, such as pimples. Finally, WO 98/50208 does not

teach a continuous process nor does it teach any grinding operation. Therefore, even if the aforementioned references were combined, the references as a whole do not teach the claimed invention. Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Tisch* (US 5,433,905) in view of *Pozzo et al* (US 4,009,073), and WO 98/50208 and further in view of either *Kunнемeyer* (US 4,883,546) or *Hagstrom* (US 4,356,763). For the same reasons as stated above with respect to the cited references, Applicants submit that the prior art would not render claims 7 and 8 obvious. None of the cited references teach or suggest the elements missing in the primary reference. Further, *Hagstrom* is directed to a device for use in a hydraulically-operated press and is not directed to a continuous process for making lignocellulosic containing boards. Moreover, *Kunнемeyer* discloses a process for making wood fiber boards from homogeneous fine wood dust and not, more generally, lignocellulosic particles. Neither reference teaches or suggests that uniform density can be achieved using a continuous dry process for producing lignocellulose-containing boards from a mat of lignocellulose-containing material. Reconsideration and withdrawal of the rejection is respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he/she telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

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If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

By 

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